

## PATENT COOPERATION TREATY

From Japanese Patent Office

(INTERNATIONAL SEARCH AUTHORITY)

To: HAYASE, Kenichi  HAYASE & CO. 13F, NISSAY SHIN-OSAKA Bldg., 3-4-30, Miyahara, Yodogawa-ku, Osaka-shi, Osaka 532-0003 JAPAN	<b>PCT</b>  WRITTEN OPINION OF THE ISA (PCT Rule 43bis)
	Date of Mailing 15 March 2005

Applicant's or agent's file reference P36400-P0		See item 2 below for the subsequent procedure	
International application No. PCT/JP2005/000086	International filing date 6 January 2005	Priority date 23 January 2004	
International Patent Classification (IPC) or national classification and IPC Int. Cl. <sup>7</sup> G11B20/14, G11B20/10, H04L25/497, H04L7/033			
Applicant Matsushita Electric Industrial Co., Ltd.			

## 1. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 43.2.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

OMISSION (2 and 3)

Date of completion of this opinion

25 February 2005

Name and mailing address of the ISA/JP Japanese Patent Office	Authorized officer
	Telephone No.

I. Basis of the opinion

1. This opinion has been drawn on the basis of the language of international application, unless otherwise indicated below.

OMISSION (2, 3, and 4)

## TRANSLATION of related part of Form PCT/ISA/237

## WRITTEN OPINION OF THE ISA

International application No.  
PCT/JP2005/000086

V Reasoned statement under Rule 43,2.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. STATEMENT

Novelty (N)

Claims 2-4, 7-12 YES

Claims 1, 5-6, 13 NO

Inventive Step(IS)

Claims NONE YES

Claims 1-13 NO

Industrial Applicability (IA)

Claims 1-13 YES

Claims NONE NO

## 2. CITATIONS AND EXPLANATIONS

Document 1: JP 2000-243034 A (Fujitsu Ltd.), 2000.09.08

Document 2: JP 2001-195830 A (Matsushita Electric Industrial Co., Ltd.),  
2001.07.19

Document 3: JP 2002-343023 A (Matsushita Electric Industrial Co., Ltd.),  
2002.11.29

Document 4: JP 2001-297534 A  
(ST Microelectronics Inc.),  
2001.10.26

Claims 1, 5-6, 13

The document 1 discloses a construction provided with an equalizer for clock generation and an equalizer for data reproduction, and further, it discloses a construction in which the both equalizers are adaptive transversal filters.

Claim 7

The vertical resolution of an A/D converter is a term in design that is arbitrarily determined by those skilled in the art.

Claims 2, 4, 8, 10-12

The document 2 discloses a construction which is provided with an AGC and an offset correction means, and uses an LMS algorithm for control of equalizers.

It is obvious to those skilled in the art to add the AGC and the offset correction means described in the document 2 to the construction described in the document 1, and to control the equalizer for data reproduction described in the document 1 using the LMS algorithm.

Claim 3

The document 4 discloses a construction in which no analog filter is connected between an AGC and an A/D converter.

It is obvious to those skilled in the art to delete a prefilter described in the document 1 by applying the construction of the document 4 to the construction of the document 1.

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of V

Claim 9

The document 3 discloses a construction for controlling an equalizer to minimize the jitter.

It is obvious to those skilled in the art to control the equalizer for clock reproduction so as to minimize the jitter, by adding the construction of the document 3 to the construction of the document 1.